ventilation, 2% (group I) vs. 9% (group II), p<0.01; preoperative inotropes, 11% (group I) vs. 37% (group II), p<0.01. Among the donors, age older than 60 years, 7% (group I) vs. 13% (group II), p=0.01, norepinephrine support at retrieval, 74% (group I) vs. 88% (group II), p<0.01 and ischemic time, 156 min. (group I) vs. 183 min. (group II), p<0.01. Even if the occurrence of primary graft dysfunction was the similar in both groups, 21% (group I) vs. 27% (group II), this complication was treated with high dose inotropes in 10% (group I) vs. 2% (group II), p<0.01; with ECMO in 8% (group I) vs. 25% (group II), p<0.01. One-year mortality and 5-years survival were similar in both groups: 26% (group I) vs. 29% (group II), 67% (group I) vs. 62% (group II).

Conclusion: The evolution of waiting list criteria and perioperative use of ECMO allowed us to transplant sicker recipients, using marginal donors, without any significant impact on short and mid-term survival.

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Interest of BNP in very old patients: the BNP Elderly Dyspnea (BED) Study

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Background: Few data are available on the value of BNP in older-old subjects. The aim of this study was to evaluate the benefit of BNP for heart failure diagnosis in very old patients.

Methods: The BED is a French multicenter observational prospective study that enrolled 383 very old subjects (≥80 yo) hospitalized in geriatric care with acute dyspnea. BNP was measured in acute phase, before any diuretic treatment. Cardiologists categorized the subjects into 3 subgroups according to ESC criteria and blinded to BNP level: heart failure (HF), respiratory failure and mixed disease (HF and respiratory failure combined). Subjects with mixed disease were then reclassified into HF or respiratory failure groups according to the predominant feature (cardiac or respiratory). We analyzed the prognostic value (sensibility, sensitivity and area under curve (AUC)) of the BNP for the diagnosis of HF, mixed disease included and excluded.

Results: Mean age was 89±5 years, 66% of the patients were women, 57% had previous history of HF, 67% hypertension, 13% diabetes, 33% coronary heart disease and 49% atrial fibrillation. Mean LVEF was 56±13%. Several patients had non-cardiac comorbidities, malnutrition 48%, severe renal failure 41%, dementia 38%, depression 32%, COPD 17%, and cancer 12%. Fifty percent of the subjects had cardiac dyspnea, 26% respiratory dyspnea and 24% dyspnea of mixed origin. Mean BNP values were 675 (835), 301 (366), 558 (796) pg/mL (p<0.001) in cardiac dyspnea, respiratory dyspnea and mixed origin subjects respectively. However, the AUC was only 0.68 and 0.67 with mixed dyspnea included and excluded respectively. In the overall population, the sensitivity and specificity was 86% and 33% for a cutoff of 100 pg/mL, 48% and 73% for a cutoff of 400 pg/mL and 26% and 86% for a cutoff of 800 pg/mL. Similar results were obtained with mixed dyspnea subjects excluded.

Conclusion: In very old patients, BNP has a poor sensitivity and specificity for discriminating cardiac from pulmonary dyspnea.

065

Incidental silent myocardial infarction by cardiac MRI in patients hospitalized for heart failure and preserved ejection fraction

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Introduction: Heart failure with preserved ejection fraction (HFPEF) is an incurable but prevalent disease associated with poor prognosis. Whether cardiac MRI with late enhancement (LE) analysis could provide new insight into myocardial structure and pathophysiology is investigated in this work.

Methods: 50 consecutive and clinically stabilized patients with HFPEF (Framingham clinical criteria, EF >50% and BNP level >100 pg/ml) were explored by MRI (Siemens 1.5T, Symphony and Avanto) for cine-SSFP as well as 10-min LE following Gadolinium infusion sequences, 2 months after an acute decompensation. Patients were stratified according to the distribution of LE imaging at least in 2 adjacent segments (subendocardial, subepicardial or intramyocardial). Interestingly subendocardial LE localization was considered as a marker of myocardial infarction. Demographic data and medical history were also collected.

Results: Mean age was 73±9 yrs and sex ratio was 0.85. The magnitude of hypertension, diabetes and chronic kidney disease was 78%, 47% and 24%, respectively. A history of ischemic heart disease (prior MI and/or isolated coronary lesions) was reported in 23% of pts. By MRI, EF was 57±11%, indexed left ventricular end-diastolic volume was 78±23 ml/m² and left atrial end-systolic volume was 111±35 ml. Late enhancement analysis was completed in 47 patients. Twenty two patients had no LE. Among the 25 remaining patients, subendocardial, intramyocardial and subepicardial LE was found in 62%, 32% and 20% of cases, respectively. The diagnosis of myocardial infarction was more frequently detected by MRI than orally reported in the medical report (32% vs. 23% respectively, p<0,0001) overall.

Conclusion: Cardiac MRI provides new insight into HFPEF by revealing more silent ischemic heart disease than orally documented

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Atrial arrhythmias in patients with heart failure and preserved ejection fraction.
Results from the prospective French and Swedish KaRen study

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Background: the prevalence of atrial arrhythmias (AAr) in patients with heart failure (HF) is high, namely in HF with preserved ejection fraction (HFpEF). KaRen study is a French and Swedish prospective registry enrolling patients with an acute HFpEF and reassessing these patients 4-8 weeks later after conventional HF treatment.

Aim: we sought to define the exact prevalence and the main clinical correlates of AAr diagnosed in the patients included in KaRen.

Method: 535 patients were prospectively recruited and 58.5% had a history of AAr. Clinical characteristics, co-morbidities, risk factors, left ventricular ejection fraction, blood chemistry and drug treatment were recorded at baseline and 4-8 weeks later.

Results: The main characteristics at baseline and 4-8 weeks follow-up of the 313 pts with a history of AAr (AAr+) and of the 220 without AAr (AAr-) are displayed in the table. Patients with AAr were older (p=0.0004) and tend to have higher NT-proBNP levels at baseline. There were no significant differences for diabetes, Serum creatinin, hemoglobin or left ventricular ejection fraction. In the 313 patients AAr+, 69% were treated by beta-blockers at the admission (significantly more than in group AAr-, p=0.0034), 59.7% were treated with an ACE-inhibitor, 60% got an oral anticoagulant (p<0.0001) at baseline and 73% at the 4-8week visit.

Conclusion: AAr are extremely prevalent in patient admitted for HFpEF. Prevalence increases with increasing age and higher blood pressure. It leads to significantly more prescription of beta-blockers. Interestinglly, NT-proBNP decreased more in AAr+ patients after treatment.

Table – Main characteristics

Mediane [25 – 75th pctl]	AAr+ N= 313 (58.5%)	AAr- N=220 (41.5%)	p-value
Age	80[73-84]	77[70-84]	0.003
Body Mass Index	28[24-32]	25[25-33]	ns
Left ventricular ejection fraction	55 [50-60]	55[50-60]	ns
Systolic blood pressure (mm Hg)	144[125-160]	151[132-180]	0.0002
NT-proBNP admission	2654 [1356-4921]	2113 [1040-4630]	0.06
NT-proBNP 4-8 weeks	1710 [819- 2800]	2113 [1040- 1948]	<0.001

067

Prognostic significance of calibrated integrated backscatter in patients with heart failure and preserved ejection fraction

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Introduction: Calibrated integrated backscatter (CIB), a surrogate for myocardial fibrosis, is deteriorated in hypertrophic, ischemic cardiomyopathy or in systolic heart failure (HF). Whether CIB may differentiate patients with heart failure and preserved ejection fraction (HFPEF) at risk of death or HF reoccurrence has never been investigated.

Methods: 34 patients admitted for HFPEF (Framingham criteria, EF >50% and BNP level >100 pg/ml) were imaged by echocardiography 2 months following an acute decompensation. We measured left ventricular function, atrial dimensions and calibrated Integrated Backscatter (CIB) which was obtained from parasternal long axis by subtracting pericardial CIB intensity from myocardial CIB intensity of the LV anteroseptal and posterior walls (figure). Measurements of calibrated CIB, expressed in decibels, were performed at QRS complex onset. The primary endpoint was the occurrence of death or hospitalization for HF at 12-month F/U.

Results: 11 patients reached the primary endpoint (3 deaths and 8 hospitalizations for HF). In this group at risk, patients had more chronic obstructive pulmonary disease (p=0.03) and coronary artery bypass (p=0.008). Despite similar EF (55,7±7,3 vs. 61,5±10,8 p=0,25), we observed larger left atrial diameter (49.5 mm±6.6 vs. 44.2 mm±7.0 p=0.05) and area (28.8±6.2 cm² vs. 24.5±5.1 cm², p=0.044) in patients with endpoint vs. no endpoint. Patients with clinical endpoint showed more anteroseptal and posterior wall myocardial ultrasound reflectivity (–12.8 dB±7.4 vs. –22.7 dB± 8.1 p=0.0017 and –14.8±5.7 vs. 21.3+/-8.0 p=0.021) as compared with event-free patients.

Conclusion: Our data support the hypothesis that calibrated CIB, a surrogate for myocardial fibrosis, identifies HFPEF patients at risk of death or HF hospitalization.

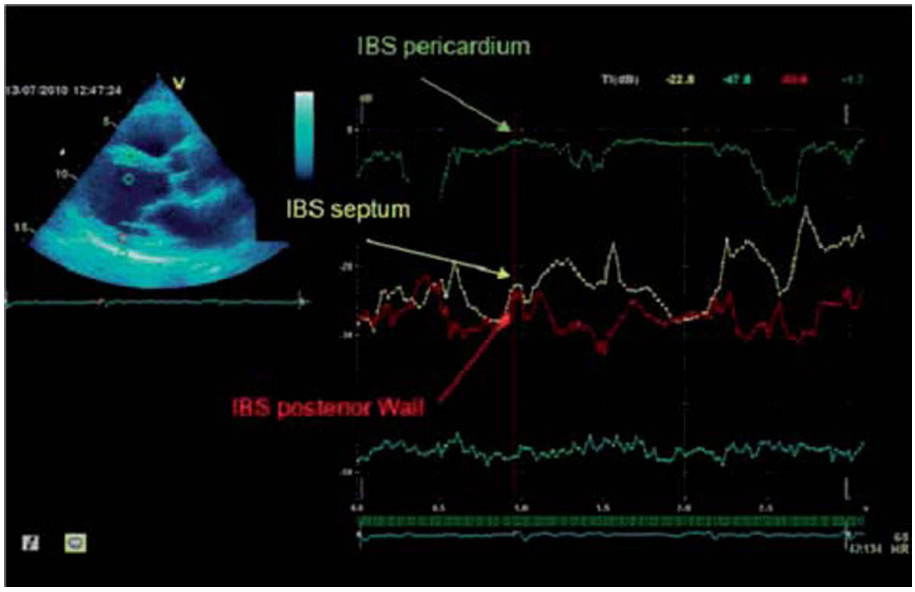

Figure (abstract 067) – Integrated backscatter measurement

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Pulmonary hypertension in patients older than 70 years with preserved left ventricular function and no valvular heart disease

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Introduction: Pulmonary hypertension (PH) is frequent among elderly patients. The most common causes of PH in this population are severe valve diseases and heart failure with decreased left ventricular ejection fraction (LVEF). PH in older patients without valve disease and with preserved LVEF is less known: the aim of our study was to determine the characteristics of older patients with PH despite preserved LVEF and normal valves.

Methods: We included prospectively patients over 70 year of age, with PH suspected during echocardiography and confirmed by pressure measurements during right heart catheterization. The exclusion criteria were significant valve disease and LVEF under 50%.

Results: Between November 2010 and November 2011, we included 26 consecutive patients (17 women), 78±5 years old with systolic pulmonary arterial pressure of 68±15 mm Hg. Nineteen patients (73%) had been hospitalized for heart failure previously and 59% were in NYHA III-IV functional class. The six-minute walk distance was 226±132 m, the mean NT-proBNP level 1462 pg/ml. Fourteen patients (54%) had atrial fibrillation. Nine patients